



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,594	12/20/2001	Satoshi Kamiya	396290/00	6179
21254	7590	06/28/2005	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			HOM, SHICK C	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,594

Applicant(s)

KAMIYA ET AL.

Examiner

Shick C. Hom

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-13 and 37-39 is/are allowed.
- 6) ☒ Claim(s) 1-8, 14, 16-25, 27-34, 40, 42-51 and 53 is/are rejected.
- 7) ☒ Claim(s) 9-10, 15, 26, 35-36, 41, 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/20/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2666

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

2. Figures 1-8 should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 2666

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, 14-25, 27-34, 40-51, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scarmalis (6,134,245) in view of Enrique Hernandez-Valencia, Lucent

Art Unit: 2666

Technologies, "Generic Framing Procedure (GFP) Specification,"
October 9-13, 2000.

Regarding claims 1, 27:

Scarmalis discloses a generic frame transfer apparatus for transferring a generic frame over a generic network, comprising an FCS generation section that generates, when said generic frame is generated and sent by said generic frame transfer apparatus, an FCS (Frame Check Sequence) using a payload field of said generic frame as a generation target area and adds this FCS to the FCS field of said generic frame (see col. 4 lines 10-27 which recite receiving frame relay data packets and reassembling, i.e. generating, the generic data frame clearly reads on transferring generic frame over a network including generating the generic frame; further, Figs. 4-5 and col. 7 lines 9-37 which recite and shows the last data packet containing the FCS (Fig. 4 and Fig. 5, item 48) being placed in the data, payload field of the generic frame (Fig. 5, item 55) clearly anticipate the FCS using a payload field of the generic frame as a generation target area.

Regarding claims 5, 31:

Scarmalis discloses a generic frame transfer apparatus for transferring a GFP (Generic Frame Procedure) frame over a GFP

Art Unit: 2666

network, comprising an FCS recalculation section that recalculates, when said GFP frame transfer apparatus receives said GFP frame and transfers to the next GFP frame transfer apparatus, and adds this FCS to the FCS field of said GFP frame (see col. 7 lines 60-67 which recite generating a new FCS for the frame and applying it as a trailer to the frame clearly reads on FCS recalculation whereby the FCS is added to the FCS field of the generic frame).

Regarding claims 2, 6, 28, 32:

Scarmalis discloses further comprising an FCS check section that carries out, when said generic frame transfer apparatus receives said generic frame, an FCS check using said payload field and said FCS field of said generic frame (see col. 8 lines 3-18 which recite verifying the FCS frame clearly reads on the FCS check section).

Regarding claims 3, 7, 29, 33:

Scarmalis discloses wherein when said FCS check by said FCS check section detects an error of the generic frame to be transferred to the next generic frame transfer apparatus, said generic frame is not discarded, but transferred to the next generic frame transfer apparatus with the same FCS added when said error is detected (see Fig. 5, item 54, and col. 7 lines 60-67 which recite the FCS or new CRC being added to the frame).

Art Unit: 2666

Regarding claims 4, 8, 30, 34:

Scarmalis discloses further comprising a monitoring control processing section that is notified, when said FCS check by said FCS check section detects an error, of this error detection from said FCS check section and notifies this error detection to the control system of said generic network (see col. 5 lines 40-61 and col. 1 lines 56-59 which recite the data link control service providing error checking and control).

Regarding claims 16, 17, 42, 43:

Scarmalis discloses further comprising a packet extraction section that terminates the frame of the subnetwork that stores a packet to be stored in the payload field of said GFP frame and extracts said packet from the frame of said subnetwork and wherein said packet extraction section extracts said packet by removing unnecessary overhead for said subnetwork from the frame of said subnetwork (see col. 5 lines 40-61 which recite the control plane for termination of transportation and Fig. 4 which shows the data packet being extracted from the generic frame).

Regarding claims 18, 19, 44, 45:

Scarmalis discloses wherein said subnetwork is Ethernet and wherein said packet extraction section extracts said packet from the payload of the Ethernet frame of said Ethernet (see col. 1 line 60 to col. 2 line 8 which recite the use of Ethernet

Art Unit: 2666

networks and col. 5 lines 40-61 which recite the control plane for termination of transportation and Fig. 4 which shows the data packet being extracted from the generic frame).

Regarding claims 22, 48:

Scarmalis discloses further comprising a generic frame transmission section that stores said generic frame in a layer 1 frame which is the first layer frame of an OSI reference model accommodating said generic frame in said generic network and sends said layer 1 frame storing said generic frame from an appropriate output port of said generic frame transfer apparatus to said generic network (see abstract which recite the generic frame and col. 1 lines 53-59 which recite the OSI reference model layer 1).

For claims 1-8, 14-25, 27-34, 40-51, and 53, Scarmalis discloses all the subject matter of the claimed invention with the exception of wherein the generic frame being a GFP (Generic Frame Procedure) frame as in claims 1, 5, 27, 31; the FCS of said GFP frame output from said GFP frame transfer apparatus based on a difference of the extension header area of said GFP frame and eHEC (extension Header Error Control) field before and after an update in said GFP frame transfer apparatus and the FCS (Frame Check Sequence) of said GFP frame when input to said GFP frame transfer apparatus as in claims 5, 31; wherein said GFP

Art Unit: 2666

frame is a GFP ring frame as in claims 14, 40; wherein said subnetwork comprises a POS (Packet Over SONET) as in claims 20, 46, 53; wherein said packet extraction section extracts said packet from the payload of the HDLC frame of said POS as in claims 21, 47; further comprising a GFP frame transmission section that stores said GFP frame in a layer 1 frame which is the first layer frame of an OSI reference model accommodating said GFP frame in said GFP network and sends said layer 1 frame storing said GFP frame from an appropriate output port of said GFP frame transfer apparatus to said GFP network as in claims 22, 48; wherein a SONET (Synchronous Optical NETWORK) is used as the first layer of said OSI reference model as in claims 23, 48; wherein said GFP frame transmission section stores said GFP frame in the payload of the SONET frame of said SONET and sends said SONET frame storing said GFP frame to said GFP network as in claims 24, 50; and wherein an OTN (Optical Transport Network) is used as the first layer of said OSI reference model as in claims 25, 51.

Enrique from the same or similar fields of endeavor teach that it is known to provide the generic frame being a GFP (Generic Frame Procedure) frame (see Fig. 2 which show the standard GFP frame format) and that the FCS of said GFP frame output from said GFP frame transfer apparatus being based on a

Art Unit: 2666

difference of the extension header area of said GFP frame and eHEC (extension Header Error Control) field before and after an update in said GFP frame transfer apparatus and the FCS (Frame Check Sequence) of said GFP frame when input to said GFP frame transfer apparatus (see Fig. 11 and page 9 section 5.5.1.3 which recite the use and format of the two-octet eHEC field for CRC generated sequence, i.e. FCS, within the payload header frame of the GFP frame); wherein said GFP frame is a GFP ring frame (see page 9, section 5.5.2 which recite the use of ring frame); wherein said subnetwork comprises a POS (Packet Over SONET) (see page 3 section 1 which recite the use of SONET network); wherein said packet extraction section extracts said packet from the payload of the HDLC frame of said POS; wherein a SONET (Synchronous Optical Network) is used as the first layer of said OSI reference model (see Fig. 4 of Scarmalis which shows the HDLC frame, the abstract and col. 1 lines 53-59 which recite use of the first layer of the OSI model, and page 3 section 1 of Enrique which recite the use of SONET network); wherein said GFP frame transmission section stores said GFP frame in the payload of the SONET frame of said SONET and sends said SONET frame storing said GFP frame to said GFP network; and wherein an OTN (Optical Transport Network) is used as the first layer of said

Art Unit: 2666

OSI reference model (see page 3 section 1 which recite the use of SONET network).

Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the generic frame being a GFP (Generic Frame Procedure) frame and the FCS of said GFP frame output from said GFP frame transfer apparatus based on a difference of the extension header area of said GFP frame and eHEC (extension Header Error Control) field before and after an update in said GFP frame transfer apparatus and the FCS (Frame Check Sequence) of said GFP frame when input to said GFP frame transfer apparatus; wherein said GFP frame is a GFP ring frame; wherein said subnetwork comprises a POS (Packet Over SONET); wherein said packet extraction section extracts said packet from the payload of the HDLC frame of said POS; further comprising a GFP frame transmission section that stores said GFP frame in a layer 1 frame which is the first layer frame of an OSI reference model accommodating said GFP frame in said GFP network and sends said layer 1 frame storing said GFP frame from an appropriate output port of said GFP frame transfer apparatus to said GFP network; wherein a SONET (Synchronous Optical Network) is used as the first layer of said OSI reference model; wherein said GFP frame transmission section stores said GFP frame in the payload of the SONET frame of said

Art Unit: 2666

SONET and sends said SONET frame storing said GFP frame to said GFP network; and wherein an OTN (Optical Transport Network) is used as the first layer of said OSI reference model as taught in Enrique in the communications device and method of Scarmalis. The generic frame being a GFP (Generic Frame Procedure) frame and the FCS of said GFP frame output from said GFP frame transfer apparatus based on a difference of the extension header area of said GFP frame and eHEC (extension Header Error Control) field before and after an update in said GFP frame transfer apparatus and the FCS (Frame Check Sequence) of said GFP frame when input to said GFP frame transfer apparatus can be implemented by substituting the GFP generic framing procedure format of Enrique for the generic frame format of Scarmalis. The GFP frame being a GFP ring frame; wherein said subnetwork comprises a POS (Packet Over SONET); wherein said packet extraction section extracts said packet from the payload of the HDLC frame of said POS; further comprising a GFP frame transmission section that stores said GFP frame in a layer 1 frame which is the first layer frame of an OSI reference model accommodating said GFP frame in said GFP network and sends said layer 1 frame storing said GFP frame from an appropriate output port of said GFP frame transfer apparatus to said GFP network; wherein a SONET (Synchronous Optical NETwork) is used as the

Art Unit: 2666

first layer of said OSI reference model; wherein said GFP frame transmission section stores said GFP frame in the payload of the SONET frame of said SONET and sends said SONET frame storing said GFP frame to said GFP network; and wherein an OTN (Optical Transport Network) is used as the first layer of said OSI reference model can be implemented by substituting the SONET ring network of Enrique for the network of Scarmalis. The motivation for using the GFP generic framing procedure format and SONET ring network as taught in Enrique in the communication device and method of Scarmalis being that it provides more efficiency for the system since the system uses a standard format for transferring frame over the network and the added feature of using a SONET ring network.

Allowable Subject Matter

6. Claims 11-13 and 37-39 are allowed.

7. Claims 9-10, 15, 26, 35-36, 41, 52 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2666


Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Glaise discloses method and apparatus for a simple calculation of CRC-10.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


DANG TON
PRIMARY EXAMINER

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)..

SH